Vascular Surgeon and Nephrologist Collaboration

Hussein Sheashaa, MD, FACP

Professor of Nephrology, Urology and Nephrology Center and Director of Medical E-Learning Unit, Mansoura University and Executive Director of ESNT- Virtual Academy: http://lms.mans.edu.eg/esnt/

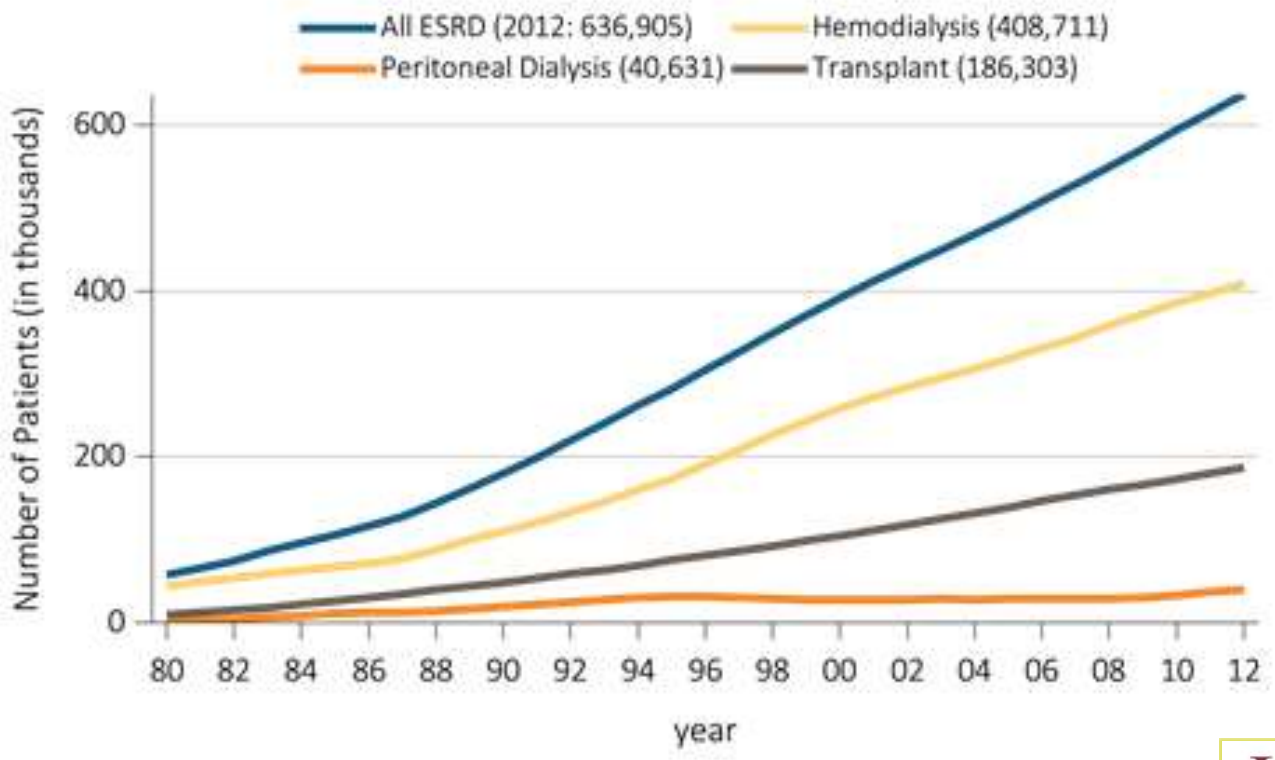
Port Said, November 19th, 2015

Focus of The Talk

- Knowledge and data
- Decision making for the best timing of vascular access
- Pitfalls
- Conclusion

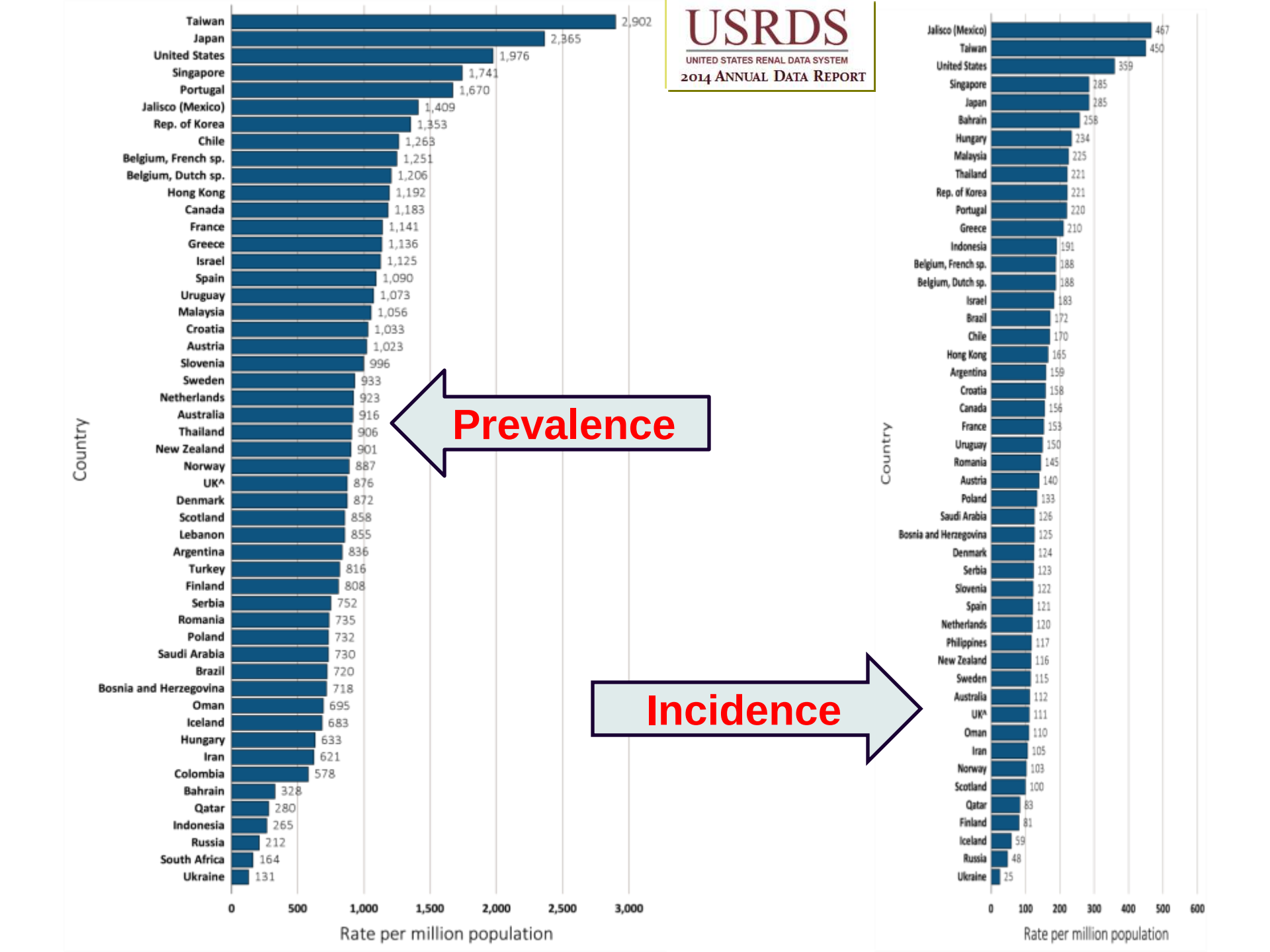
Knowledge and Data

Prevalence of ESRD

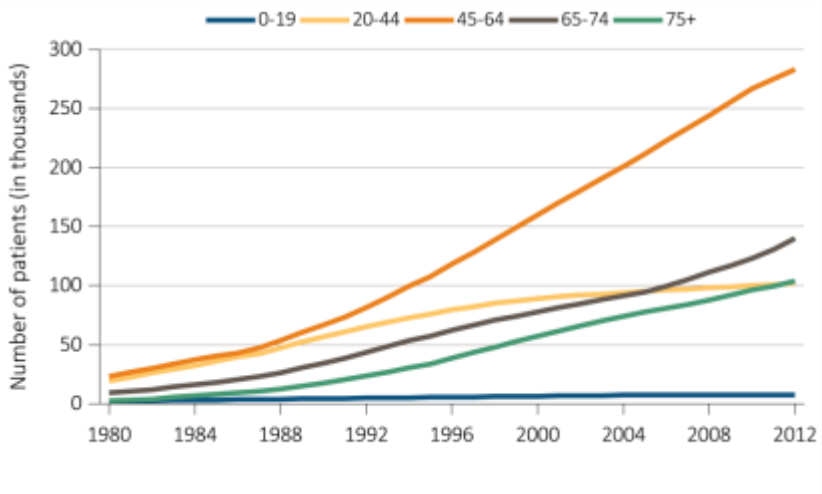


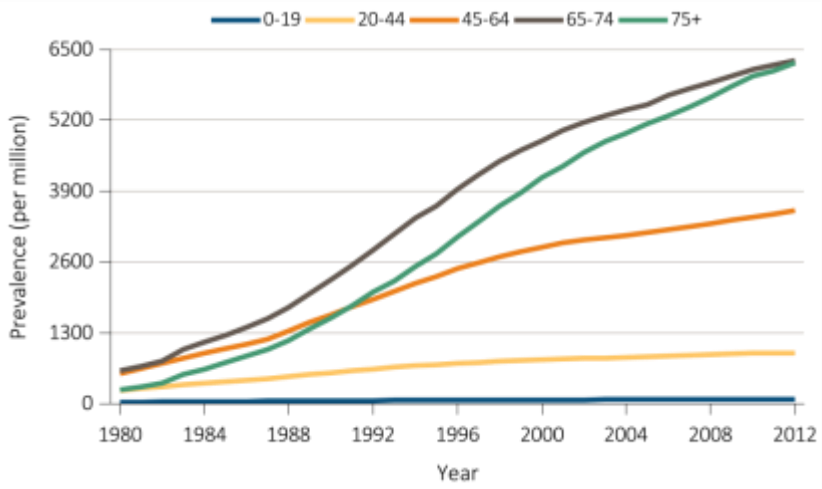
Data Source: Reference table D.1. Abbreviation: ESRD, end-stage renal disease.

USRDS
UNITED STATES RENAL DATA SYSTEM
2014 ANNUAL DATA REPORT


USRDS
UNITED STATES RENAL DATA SYSTEM
2014 ANNUAL DATA REPORT
Prevalence
Incidence
Country
Rate per million population
Taiwan 2,902
Japan 2,365
United States 1,976
Singapore 1,741
Portugal 1,670
Jalisco (Mexico) 1,409
Rep. of Korea 1,353
Chile 1,263
Belgium, French sp. 1,251
Belgium, Dutch sp. 1,206
Hong Kong 1,192
Canada 1,183
France 1,141
Greece 1,136
Israel 1,125
Spain 1,090
Uruguay 1,073
Malaysia 1,056
Croatia 1,033
Austria 1,023
Slovenia 996
Sweden 933
Netherlands 923
Australia 916
Thailand 906
New Zealand 901
Norway 887
UK^ 876
Denmark 872
Scotland 858
Lebanon 855
Argentina 836
Turkey 816
Finland 808
Serbia 752
Romania 735
Poland 732
Saudi Arabia 730
Brazil 720
Bosnia and Herzegovina 718
Oman 695
Iceland 683
Hungary 633
Iran 621
Colombia 578
Bahrain 328
Qatar 280
Indonesia 265
Russia 212
South Africa 164
Ukraine 131
0 500 1,000 1,500 2,000 2,500 3,000
Jalisco (Mexico) 467
Taiwan 450
United States 359
Singapore 285
Japan 285
Bahrain 258
Hungary 234
Malaysia 225
Thailand 221
Rep. of Korea 221
Portugal 220
Greece 210
Indonesia 191
Belgium, French sp. 188
Belgium, Dutch sp. 188
Israel 183
Brazil 172
Chile 170
Hong Kong 165
Argentina 159
Croatia 158
Canada 156
France 153
Uruguay 150
Romania 145
Austria 140
Poland 133
Saudi Arabia 126
Bosnia and Herzegovina 125
Denmark 124
Serbia 123
Slovenia 122
Spain 121
Netherlands 120
Philippines 117
New Zealand 116
Sweden 115
Australia 112
UK^ 111
Oman 110
Iran 105
Norway 103
Scotland 100
Qatar 83
Finland 81
Iceland 59
Russia 48
Ukraine 25
0 100 200 300 400 500 600

Prevalence of ESRD: Age





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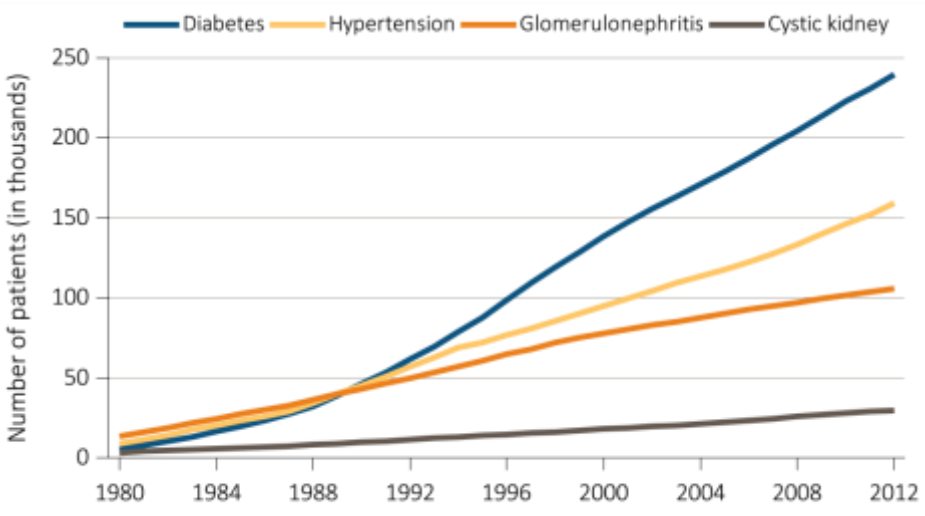
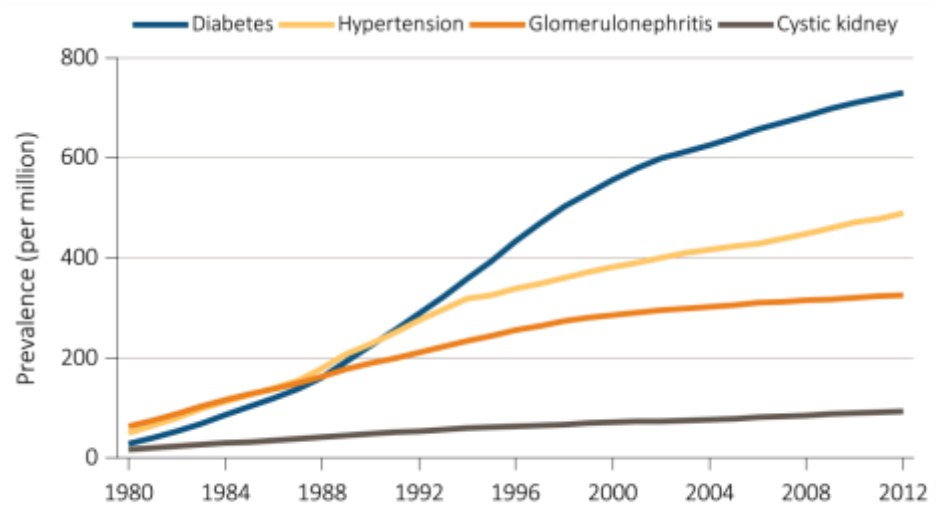
UNITED STATES RENAL DATA SYSTEM
2014 ANNUAL DATA REPORT

Prevalence of ESRD: Etiology





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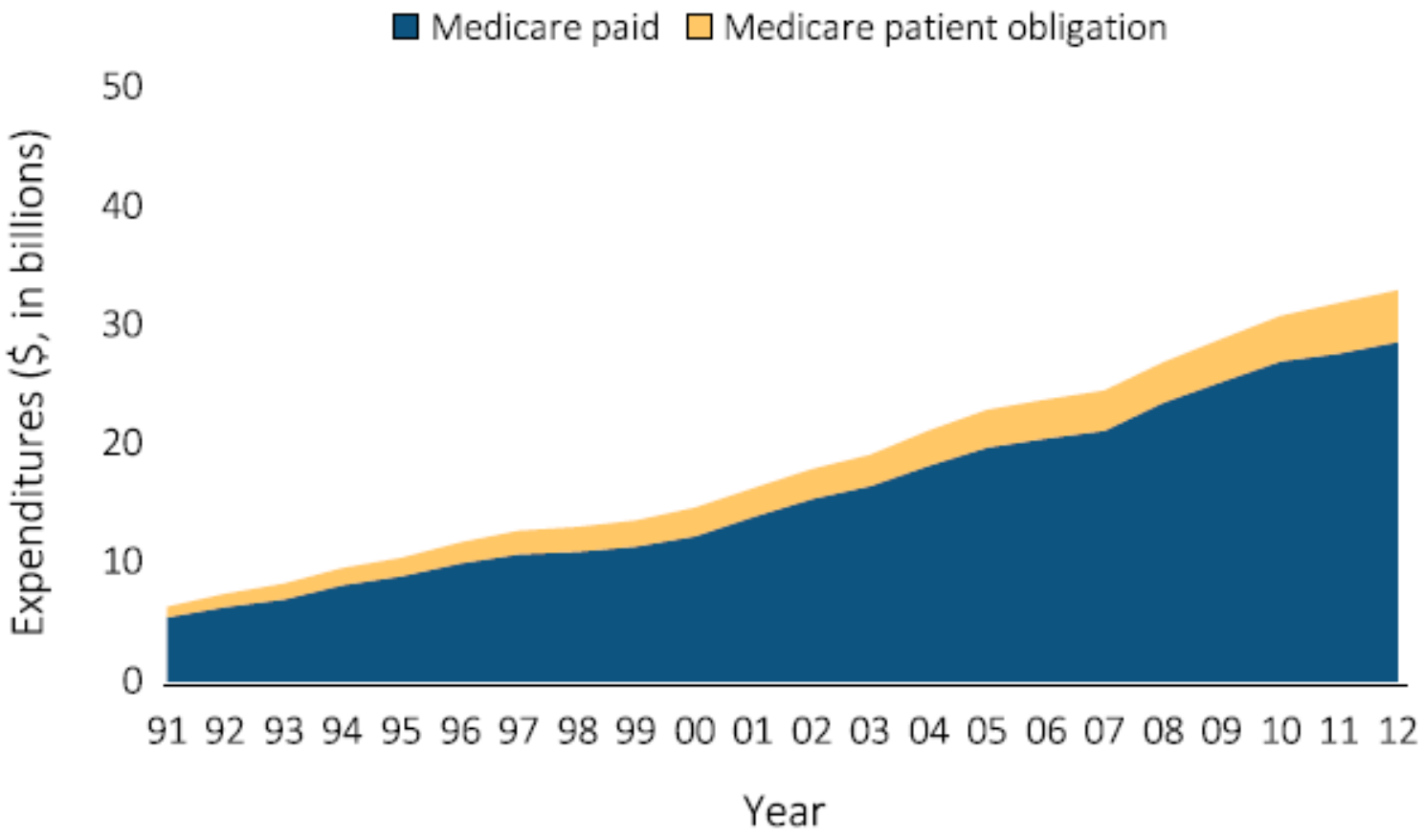
Cost of ESRD: USA



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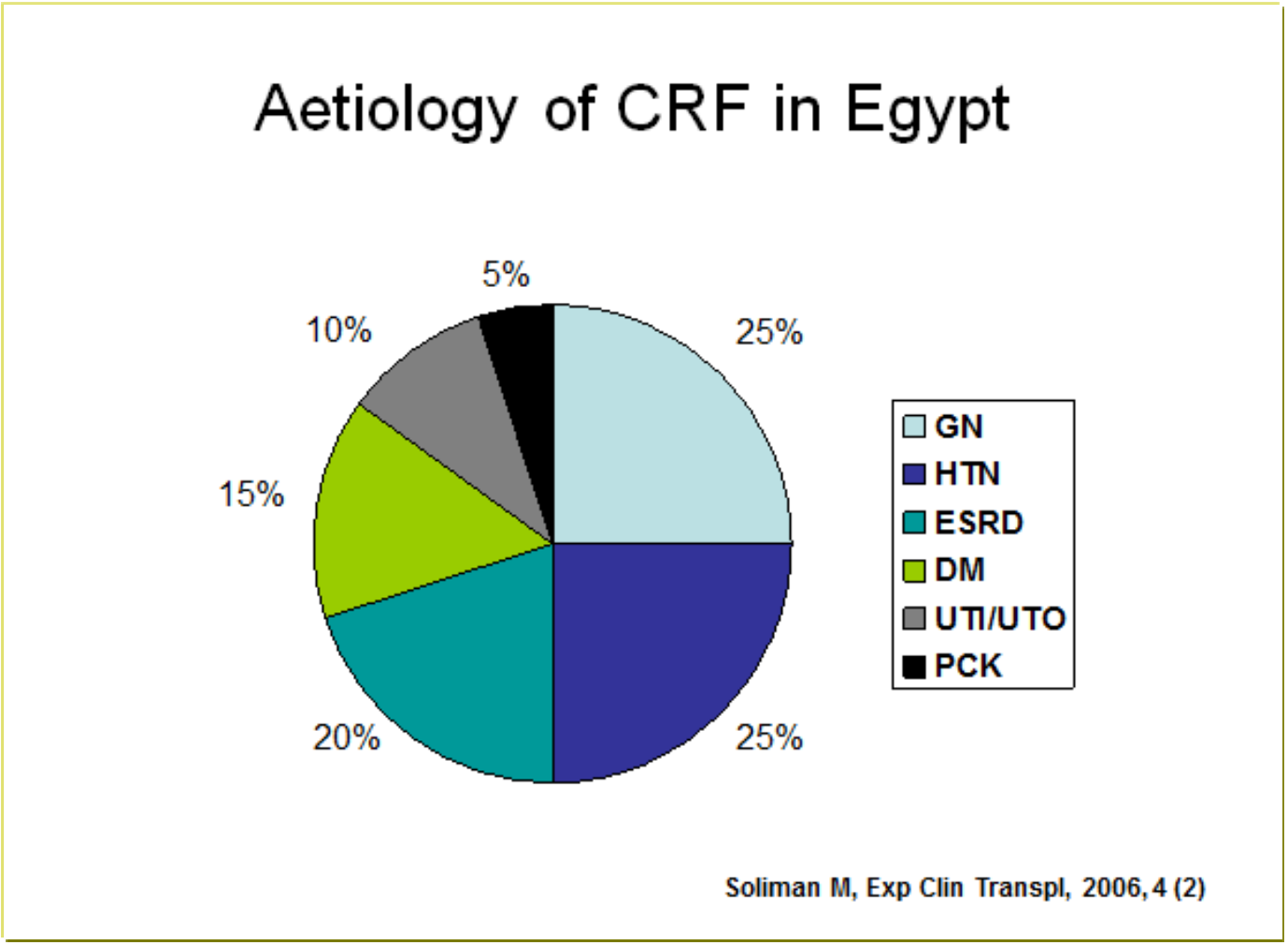
2014 ANNUAL DATA REPORT

ESRD in Egypt: Etiology

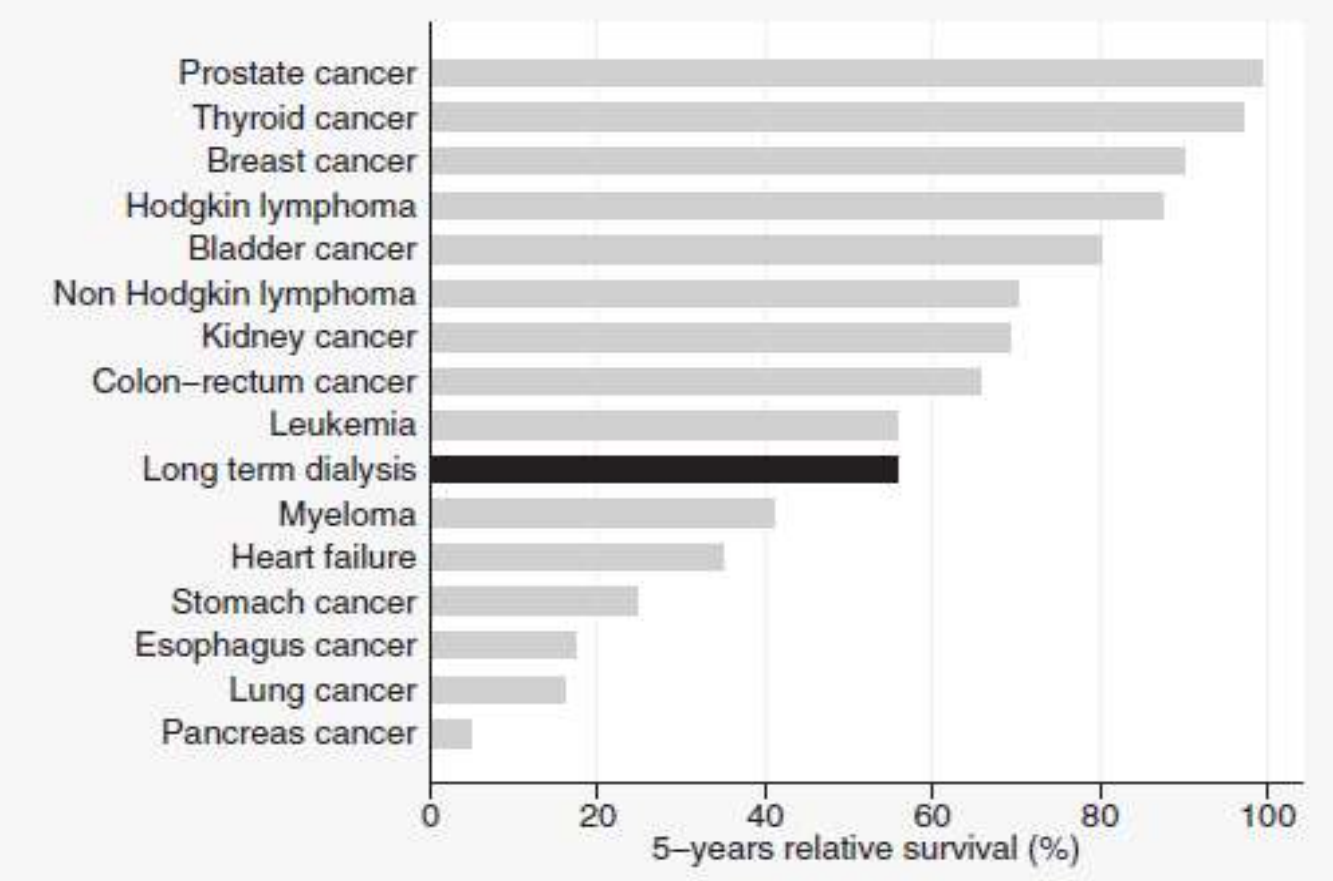


ESRD in Egypt: Epidemiology and Cost

- Incidence 100/million/year
- Prevalence of ESRD on dialysis:~50,000.
- Number of centres (2012): 460
- The total annual cost for the treatment of ESRD patients:1.8 billion EP (12% of the total annual budget of the MOH)

Egyptian Registry report 2008 &
Egyptian Demographic Registration results 2012

Hemodialysis: Patients' Survival



Am J Kidney Dis. 2012;59(6):819-828

Vascular Access and Inflammation

Urology and Nephrology Center

Cohort study (583 patients)

AJKD

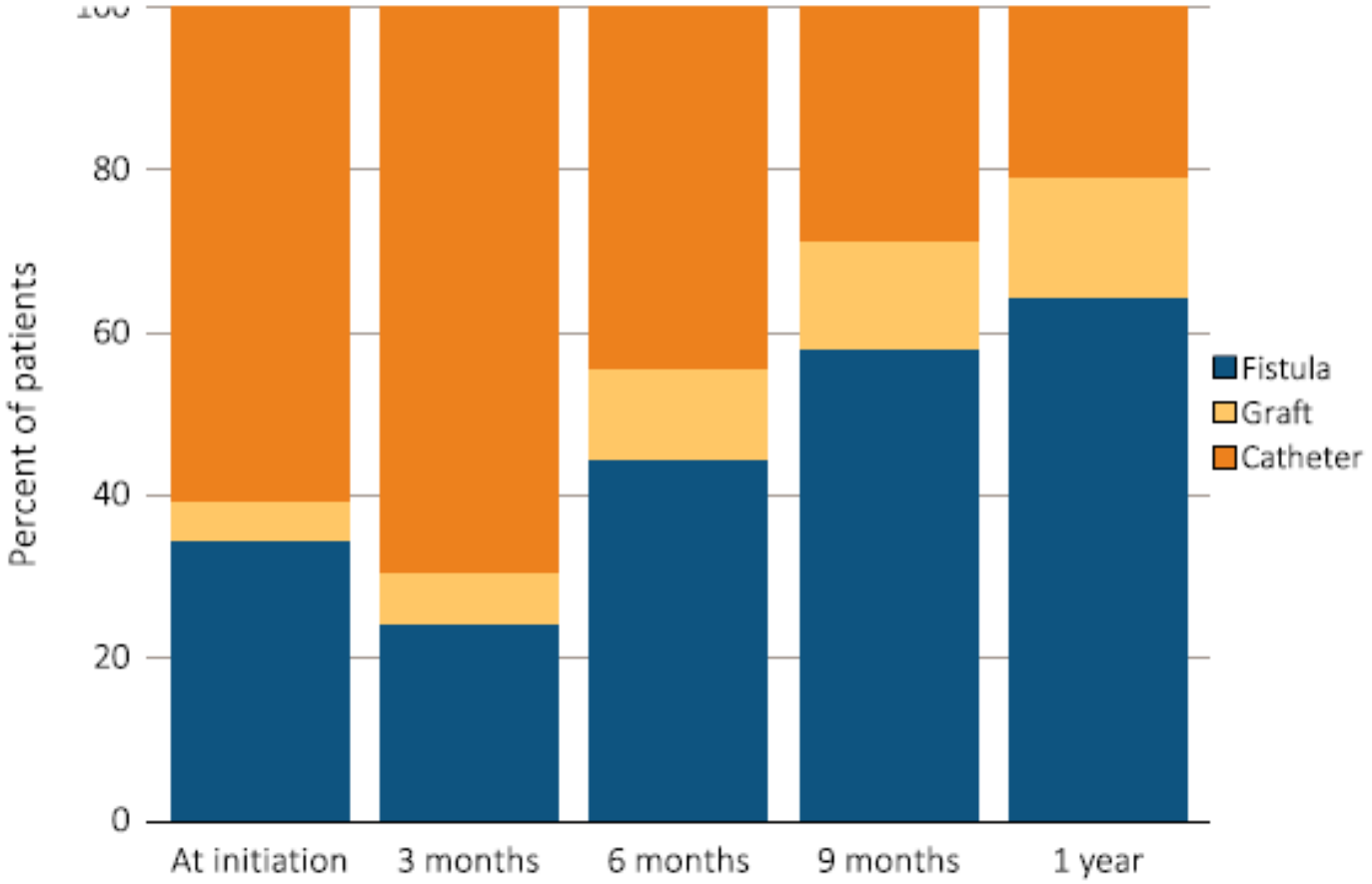
Original Investigation

Vascular Access Type, Inflammatory Markers, and Mortality in Incident Hemodialysis Patients: The Choices for Healthy Outcomes in Caring for End-Stage Renal Disease (CHOICE) Study

Tanushree Banerjee, PhD,[1] S. Joseph Kim, MD, PhD,[2] Brad Astor, PhD,[3] Tariq Shafi, MBBS, MHS,[4] Josef Coresh, MD, PhD,[5] and Neil R. Powe, MD[1]

Am J Kidney Dis. 2014;64(6):954-961

Vascular Access: USA



USRDS
UNITED STATES RENAL DATA SYSTEM
2014 ANNUAL DATA REPORT

Vascular Access: DOPPS

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USA (53422), other countries (58478)

AJKD

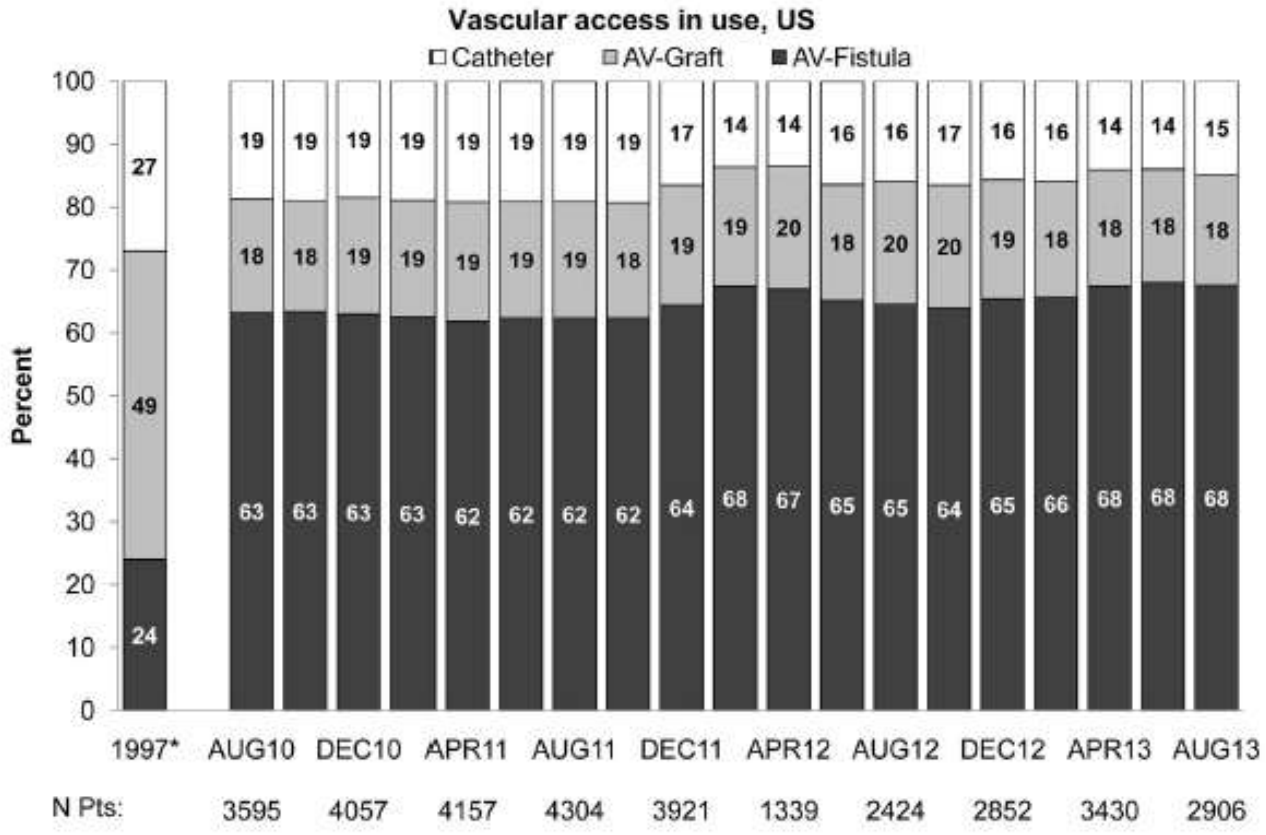
Original Investigation

Trends in US Vascular Access Use, Patient Preferences, and Related Practices: An Update From the US DOPPS Practice Monitor With International Comparisons

Ronald L. Pisoni, PhD, MS,[1] Lindsay Zepel, MS,[1] Friedrich K. Port, MD, MS,[1] and Bruce M. Robinson, MD, MS[1,2]

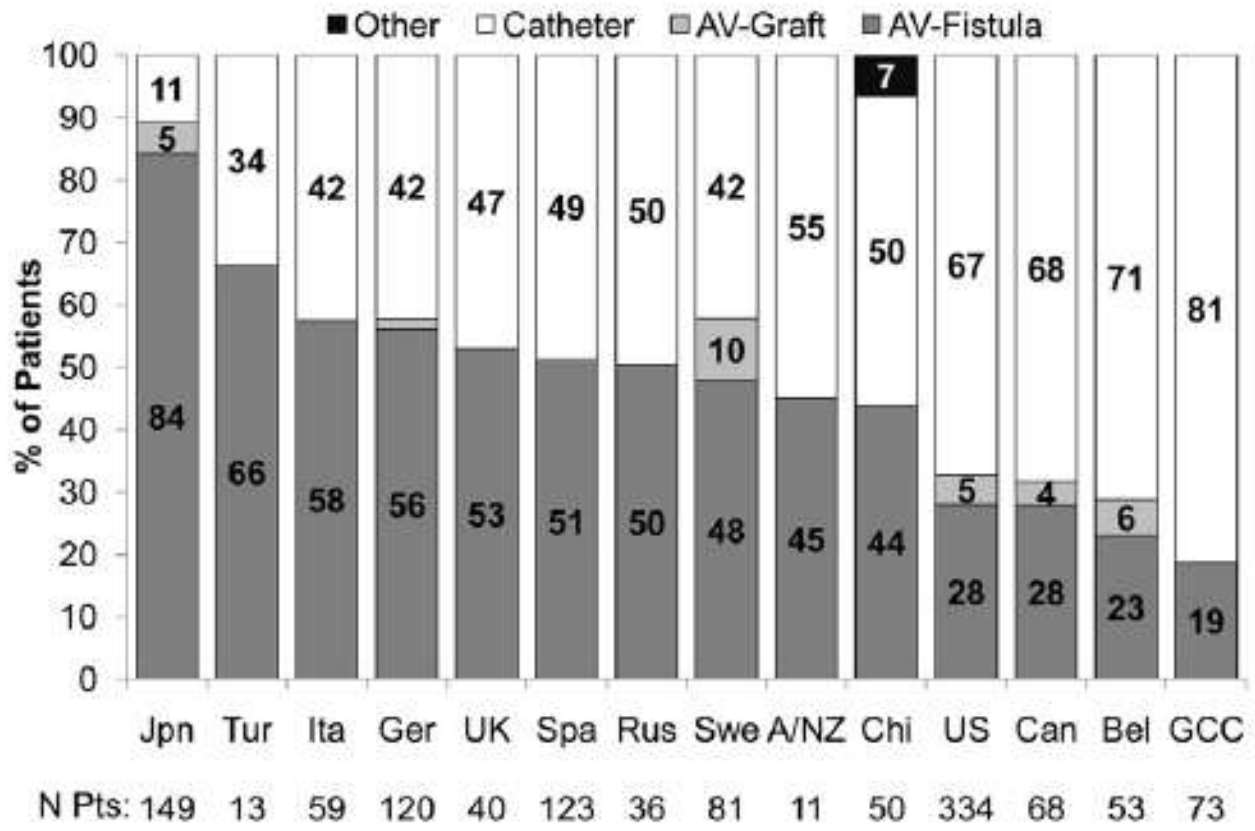
Am J Kidney Dis. 2015;65(6):905-915

Vascular Access: USA



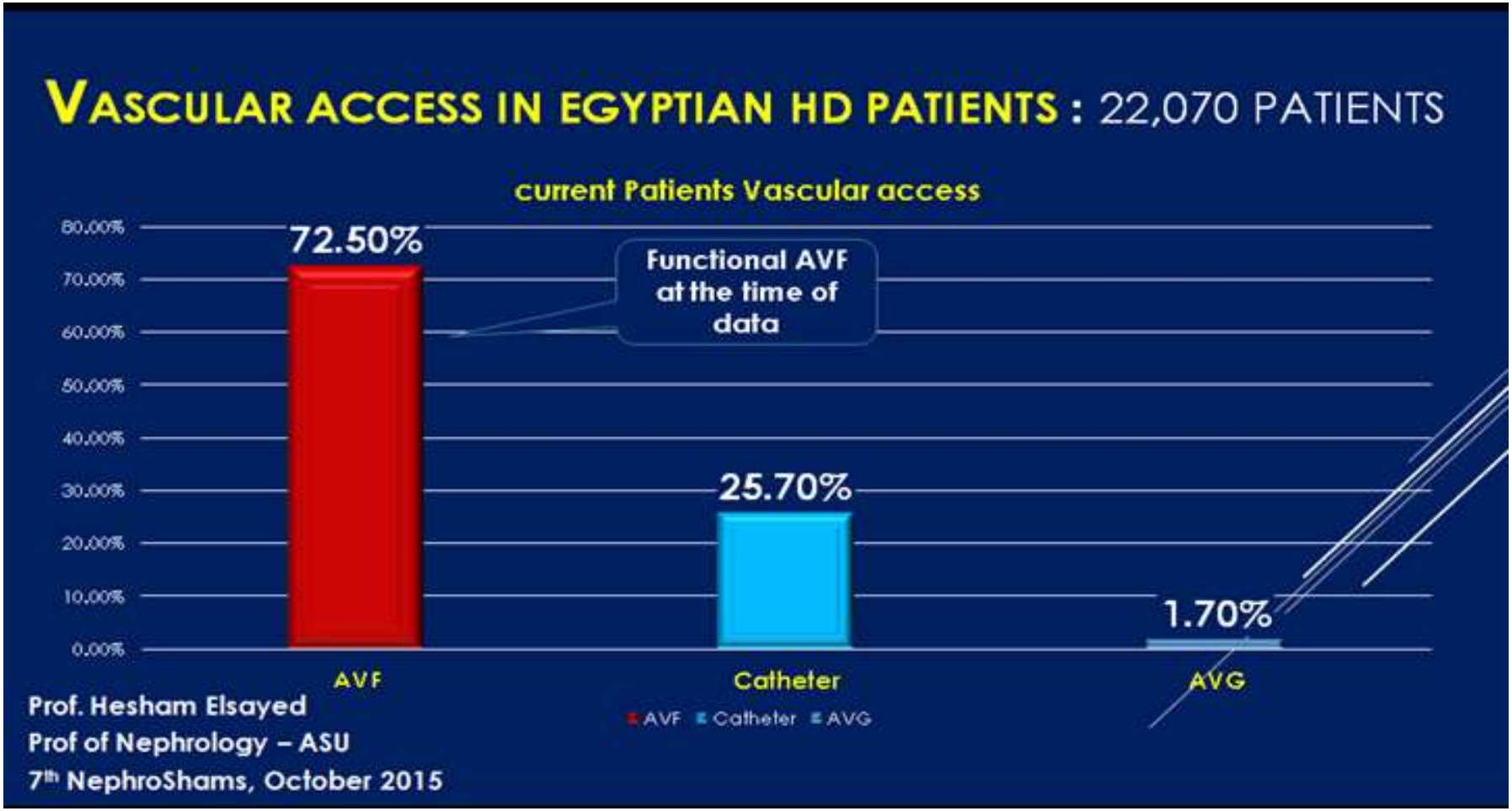
Am J Kidney Dis. 2015;65(6):905-915

Vascular Access: Incident HD



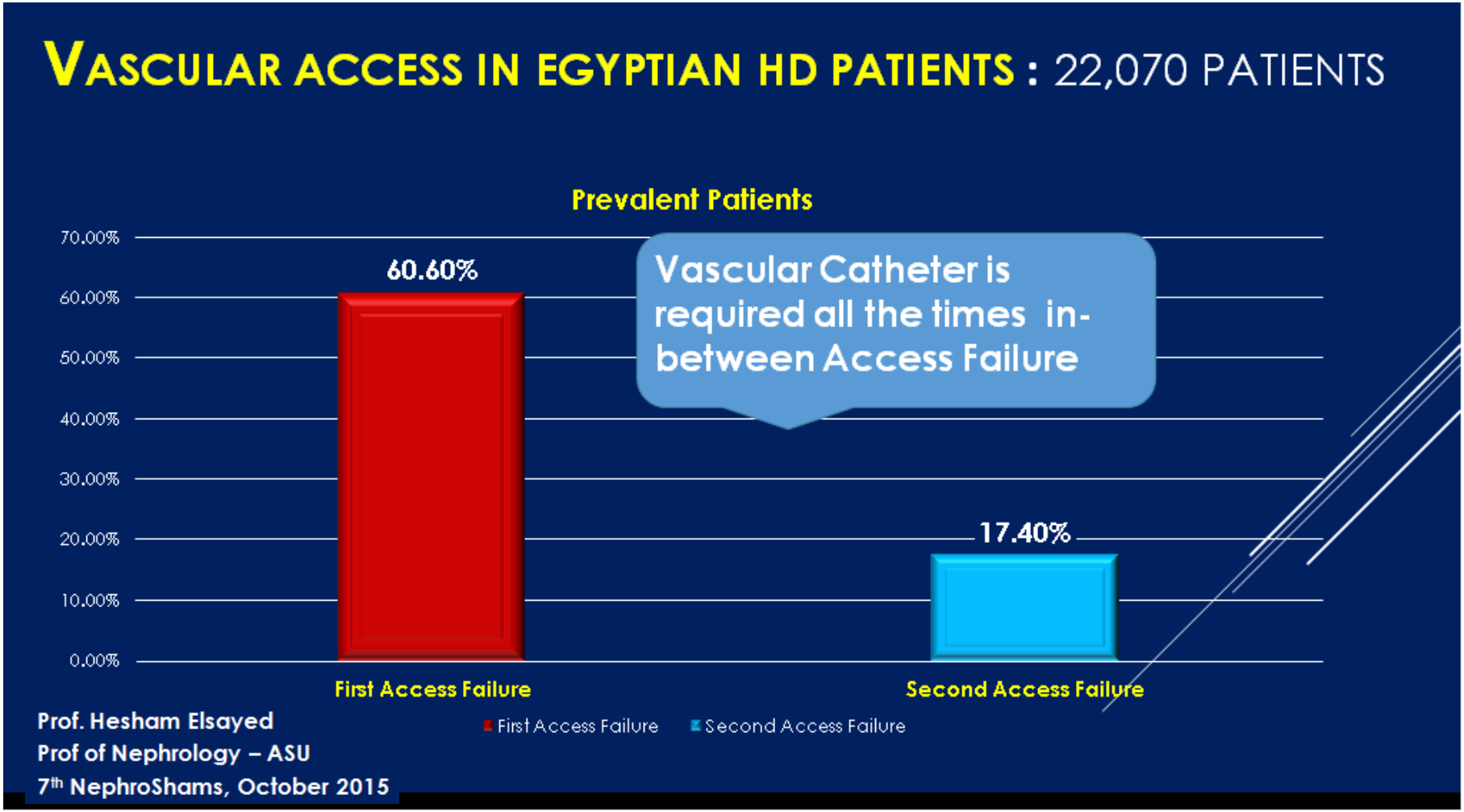
Am J Kidney Dis. 2015;65(6):905-915

AV Access:
Egyptian Data



AV Access:
Egyptian Data

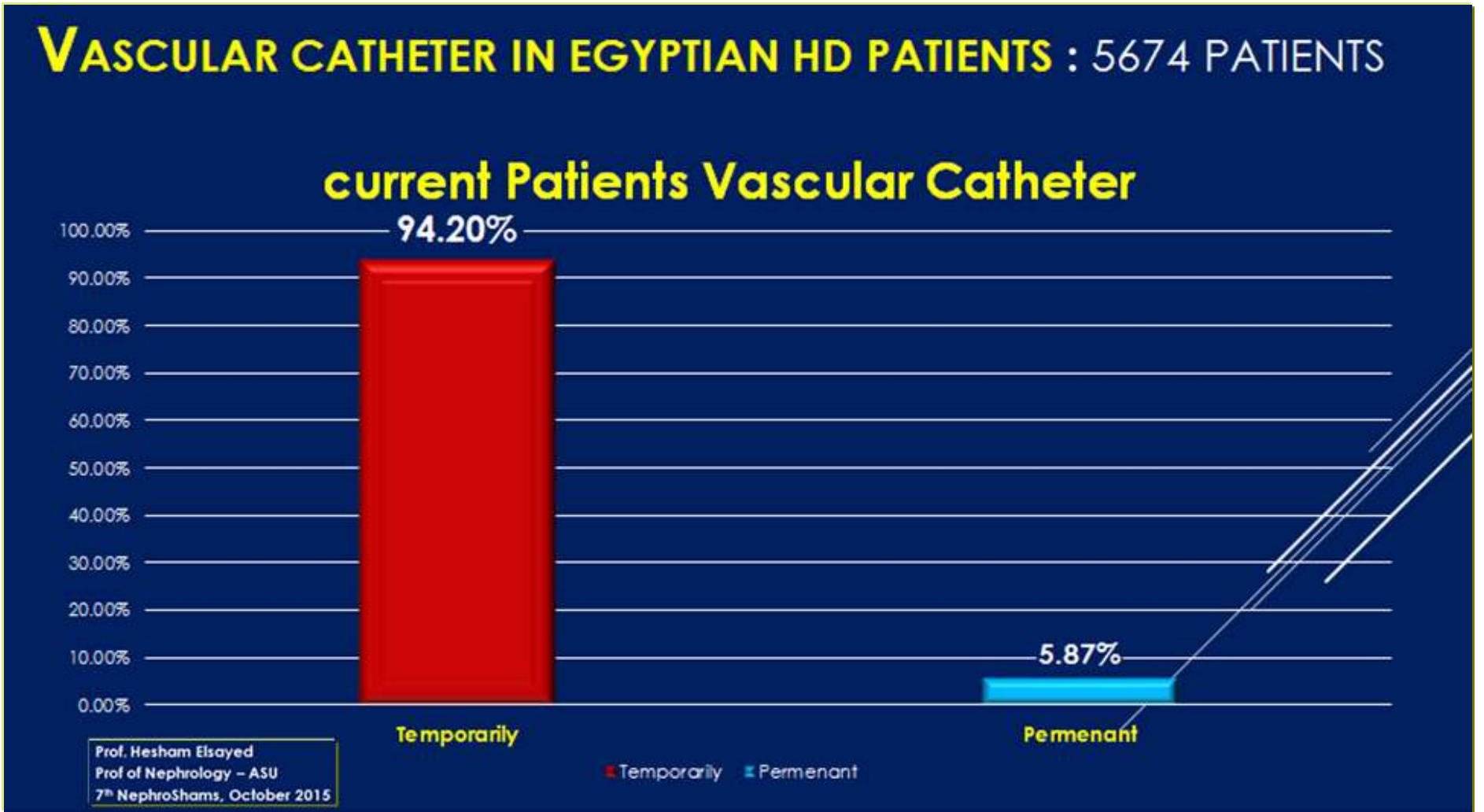
Urology and Nephrology Center



AV Access:
Egyptian Data

Urology and Nephrology Center

DNG



Vascular Access: Decision Making

Timing for Vascular Access Surgery

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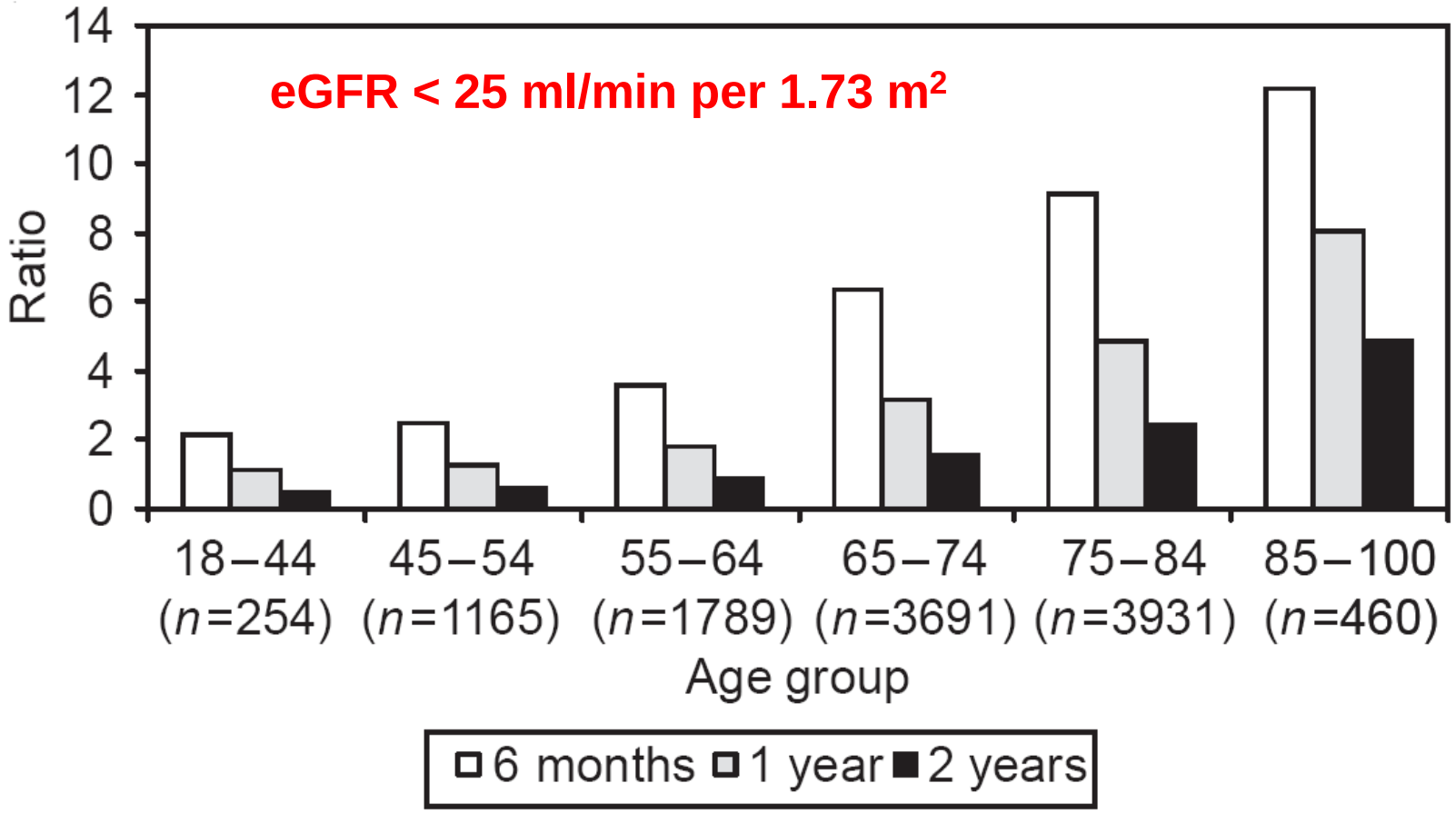
Ratio of unnecessary to necessary permanent hemodialysis access surgeries



Kidney Int 71: 555–561, 2007

Timing of AVF

Urology and Nephrology Center

AJKD

Original Investigation

Timing of Arteriovenous Fistula Creation in Patients With CKD: A Decision Analysis

Steven M. Shechter, PhD,[1] M. Reza Skandari, MS,[1] and Nadia Zalunardo, MD SM[2]

Am J Kidney Dis. Jan 2014;63(1):95-103

Timing of AVF:
Challenges in The Elderly

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CLINICAL EPIDEMIOLOGY www.jasn.org

17,511 patients≥67 years old on incident HD

Arteriovenous Fistula Placement in the Elderly: When Is the Optimal Time?

Entire Study Population (*n*=17,511)		AVF Success (*n*=9608)	AVF Failure (*n*=7903)
Absolute Number	Percent of Total for Categorical Variables		

J Am Soc Nephrol 26: 448–456, 2015

Timing of AVF:
Challenges in The Elderly

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Timing of Arteriovenous Fistula Placement: Keeping It in Perspective

J Am Soc Nephrol 26: 241–243, 2015

Bradley S. Dixon

Department of Internal Medicine, Carver College of Medicine, University of Iowa, and Veterans Administration Medical Center, Iowa City, Iowa

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Pitfalls

1. Creating AVF Accelerates The Progression of CKD

AV Fistula Creation: (n 123 CKD Patients)

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NDT Advance Access published April 16, 2015

Nephrol Dial Transplant (2015) 0: 1–5
doi: 10.1093/ndt/gfv082

ndt
Nephrology Dialysis Transplantation

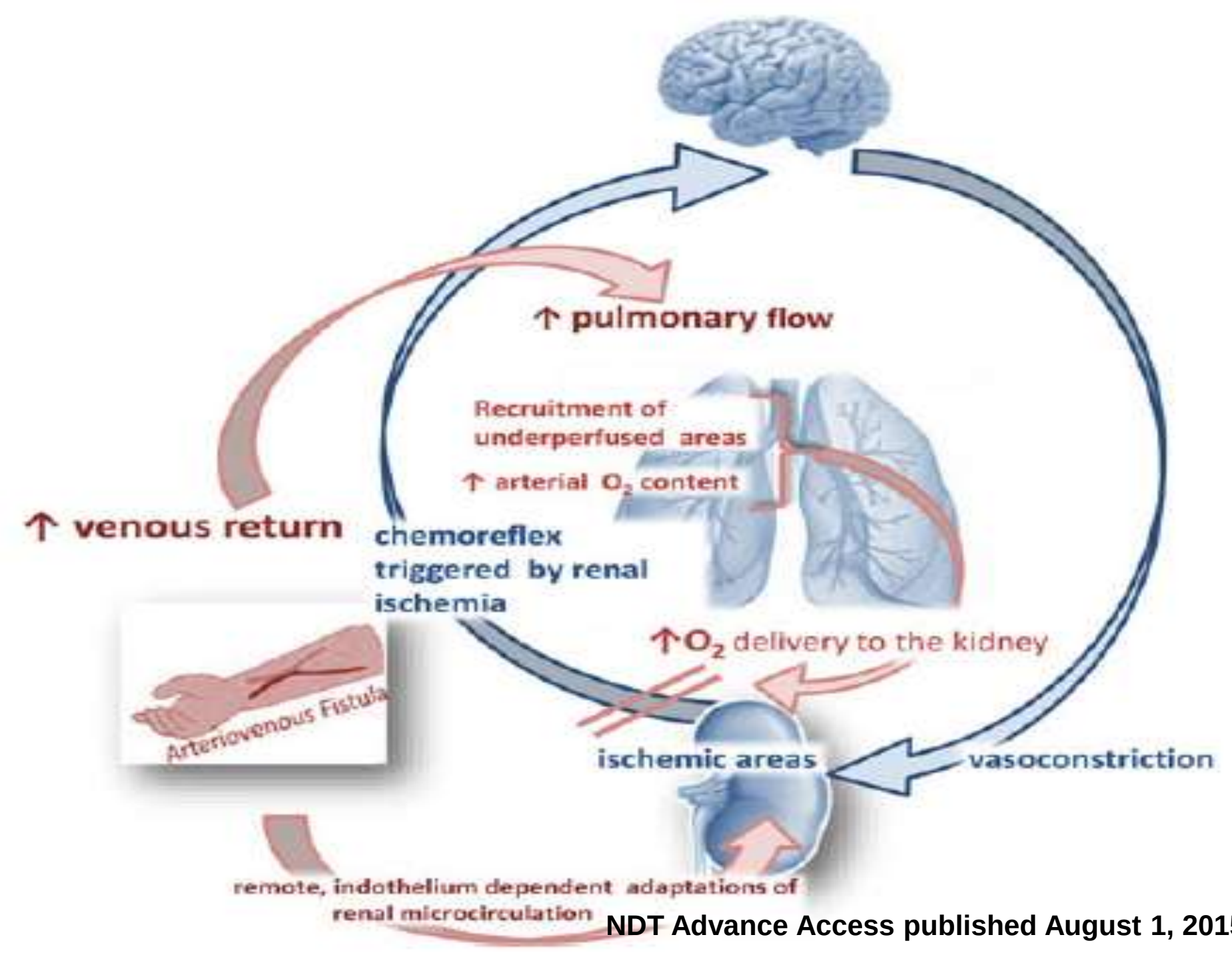
Original Article

Arteriovenous fistula creation may slow estimated glomerular filtration rate trajectory

Thomas A. Golper, Phillip Matthew Hartle and Aihua Bian

Medicine/Nephrology/Vanderbilt Center for Kidney Diseases, Vanderbilt University Medical Center and Dialysis Clinics Incorporated, Nashville, TN, USA

NDT Advance Access published April 16, 2015



NDT Advance Access published August 1, 2015

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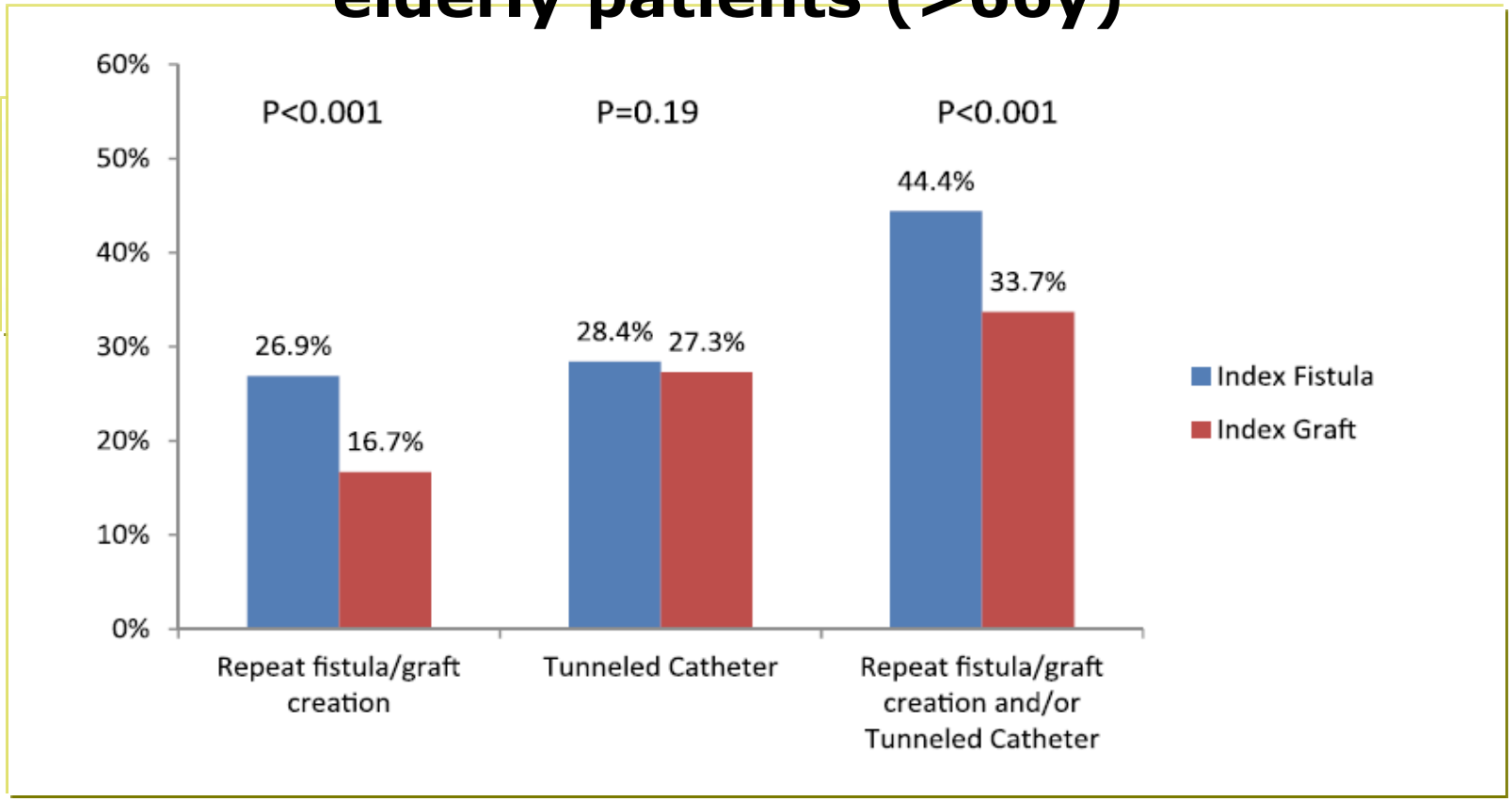
Pitfalls

2. Creating AVF Is Always The Best Access

AVF Creation

Is It Always The Best?

Retrospective cohort study, 16464 elderly patients (>66y)



Clin J Am Soc Nephrol 10: 1791–1798, 2015

AVF Creation

Is It Always The Best?

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ARTICLE IN PRESS

From the Eastern Vascular Society

Total n: 138 245 patients

Patients started on hemodialysis with tunneled dialysis catheter have similar survival after arteriovenous fistula and arteriovenous graft creation

Theodore H. Yuo, MD, MSc, Rabih A. Chaer, MD, MSc, Ellen D. Dillavou, MD, Steven A. Leers, MD, and Michel S. Makaroun, MD, *Pittsburgh, Pa*

AVF	*AVG*	*TDC*	*Total*
31,493	10,492	96,260	138,245

J Vasc Surg 2015; in press

Pincer nails following arteriovenous fistula creation

Edward G. Clark[1] and Kevin D. Burns[1]

[1]*Division of Nephrology, Department of Medicine and Kidney Research Centre, Ottawa Hospital Research Institute, University of Ottawa, Ottawa, Ontario, Canada*

Kidney International (2015) 88, 918

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Pitfalls

3. Patient Centeredness Is Not Valid For AV Access Success

AV Access:

Towards Patient's Centeredness

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"You know your own fistula, it becomes a part of you"—Patient perspectives on vascular access: A semistructured interview study

Matthew J. TAYLOR,[1,2] Camilla S. HANSON,[1,2] Jordan R. CASEY,[1,2]
Jonathan C. CRAIG,[1,2] David HARRIS,[3] Allison TONG[1,2]

[1]*Centre for Kidney Research, The Children's Hospital at Westmead, Sydney, New South Wales, Australia*
[2]*Sydney School of Public Health, The University of Sydney, Sydney, New South Wales, Australia*
[3]*Department of Renal Medicine, Westmead Hospital, Sydney, New South Wales, Australia*

Hemodialysis International 2015; in press

AV Access:

Towards Patient's Centeredness

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Cohort study (683 patients)

AJKD

Original Investigation

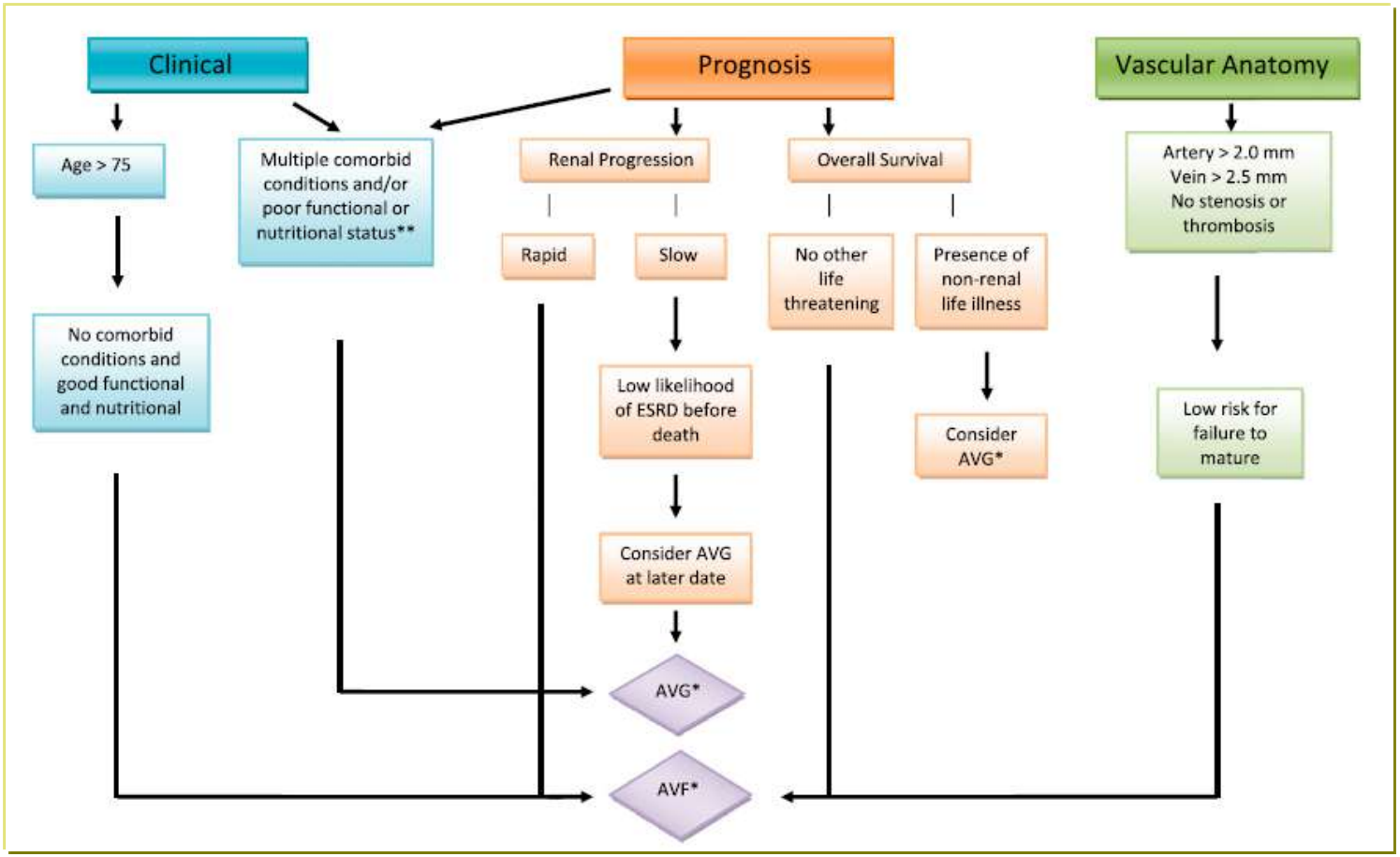
Hemodialysis Arteriovenous Vascular Access Creation After Kidney Transplant Failure

Joyce C. Zhang, BSc(Pharm),[1,2] Ahmed Al-Jaishi, MSc,[1,3] Jeffery Perl, MD,[4] Amit X. Garg, MD, PhD,[1,2,3] and Louise M. Moist, MD, MSc[1,2]

Am J Kidney Dis. 2015;66(4):646-654

AV Access:

Towards Patient's Centeredness



Clin J Am Soc Nephrol 8: 1791–1797, October, 2013

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Pitfalls

4. Imaging Is Routinely Needed Before Creating AVF

AV Fistula Creation:

Value of Routine Radiological Imaging

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Preoperative vascular access evaluation for haemodialysis patients (Review)

Kosa SD, Al-Jaishi AA, Moist L, Lok CE

4 RCT, 450 P

Preoperative vessel imaging did not improve fistula outcomes compared with standard care

THE COCHRANE COLLABORATION®

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2015, Issue 9

http://www.thecochranelibrary.com

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We'd Like To Have A (3A) Vascular Surgeon

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DNG
Dakahlia Nephrology Group
رابطة أطباء الكلى بالدقهلية

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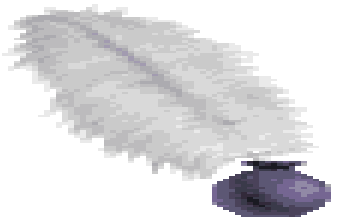

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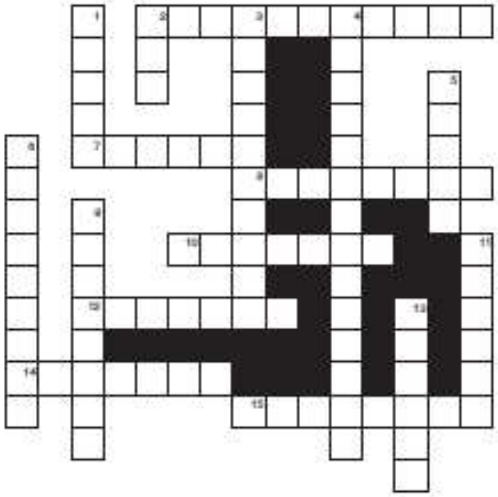
Kidney International (2012) 81, 1127–1128; doi:10.1038/ki.2011.515

Nephrology Crossword: Interventional nephrology—dialysis access and beyond!

Kellie N. Calderon[1], Maria B. Sechtdeva[2], Prabir T. Roy-Chaudhury[2] and Kenar D. Jhaveri[1]

[1]Division of Kidney Diseases and Hypertension, Hofstra North Shore LIJ School of Medicine, Great Neck, New York, USA and [2]Division of Nephrology and Hypertension, Department of Internal Medicine, University of Cincinnati, Cincinnati, Ohio, USA

Correspondence: Kenar D. Jhaveri, Division of Kidney Diseases and Hypertension, Hofstra North Shore LIJ School of Medicine, Great Neck, New York 11021, USA. E-mail: kjhaveri@nshs.edu or kdj2008@gmail.com



ACROSS

1. Stenosis of arteriovenous fistula (AVF) and arteriovenous graft (AVG) occurs late typically located at areas of turbulence near the graft vein _____
7. This infection requires intravenous antibiotics, removal of the catheter, and placement of the catheter in a new site

DOWN

1. Snuff box, ___ or elbow
2. Infection of bone, especially, when non-functional can be removed to dialysis and transplant patients
3. Central thrombosis is most commonly frequent _____ vein stenosis/occlusion

Nephrology Crossword Answers: Interventional nephrology—dialysis access and beyond!